

IN THE CLAIMS:

Please amend claims 1-8, 13-20, and 22-26, and add new claims 27 and 28, as follows.

1. (Currently Amended) A Method for proving ownership of an address of a first node in an IP based communication system, ~~wherein~~ said method comprising:

~~said first node~~

- ~~has~~ providing a private key and public key pair at a first node,

- ~~generates~~ generating, by the first node, an address using the public key of the first node, and

- ~~provides~~ providing said address to a second node,

~~said second node sends~~ receiving an address verification request from a second node to at said first node, and

said first node proving to said second node that ~~it~~ the first node owns said address by providing an address verification answer generated using said private key corresponding to said public key.

2. (Currently Amended) A The method according to claim 1, wherein the ~~step of~~ generating an address comprises: ~~the steps of~~

computing a function using the public key to generate an address generation value, and

generating an address, preferably a dynamic address, using said address generation value.

3. (Currently Amended) A The method of claim 1, wherein the address is an IPv6 (IP version 6) address.

4. (Currently Amended) A The method of claim 1, wherein said first node generates a pair of private/public keys according to an identification protocol.

5. (Currently Amended) A The method of claim 4, wherein the identification protocol is a zero knowledge identification protocol.

6. (Currently Amended) A The method of claim 1, wherein the address generation value is computed applying a hash function to the public key.

7. (Currently Amended) A The method of claim 1, wherein said first node uses the address generation value as a suffix for generating said dynamic address.

8. (Currently Amended) A The method of claim 1, wherein said address verification request sent by said second node includes a cookie and a challenge.

9. (Original) The method of claim 8 wherein said cookie is computed by said second node using a security algorithm and a security key of said second node.

10. (Original) The method of claim 8 wherein said challenge is a random number.

11. (Original) The method of claim 8, wherein said first node computes a response by applying said private key to said challenge.

12. (Original) The method of claim 11, wherein said first node sends an address verification response including said cookie, said response and said public key.

13. (Currently Amended) The method of claim 1, wherein said second node verifies that said first node owns said address by computing a hash of said public key and comparing the resulting value with said address generating value in a suffix of said dynamic address, and by applying said public key to ~~said response~~ and comparing the result with ~~said a~~ challenge.

14. (Currently Amended) The Method for proving ownership of an IP address of a node in an IP based communication system, ~~wherein~~ comprising:

generating by the node ~~generates~~ the IP address based on passwords used only once,

receiving by another node ~~receiving~~ the IP address thereby verifying ~~verifies~~ that the node owns the IP address by checking the password.

15. (Currently Amended) The Mmethod of claim 14, wherein the node generates the IP address using an advertised network prefix and the password as the suffix.

16. (Currently Amended) The Mmethod of claim 14, wherein the node includes a number into the generated IP address, the number being incremented or decremented each time the IP address is transmitted to the another node, the another node additionally checking the number for verifying ownership of the IP address.

17. (Currently Amended) A System node for proving ownership of an address of a first node in a IP based communication system, wherein the node comprises:

a providing means for providing unit configured to provide a private key and a public key pair,

an address generating unit ~~means for generating~~ configured to generate the address using the public key of the node,

an answer generating ~~means for proving~~ unit configured to prove ownership of said address by providing an address verification answer to at least one address verification request sent by a second node, the answer being generated using the private key corresponding to the public key.

18. (Currently Amended) A ~~The system~~ node of claim 17, wherein said address generating ~~means~~ unit comprises a computing means for computing unit configured to compute an address generation value using the public key, and a means for generating unit configured to generate an address, preferably a dynamic address, using said address generation value.

19. (Currently Amended) A ~~system~~ The node of claim 17, wherein said answer generating unit ~~generation means~~ is ~~adapted~~ further configured to generate ~~for generating~~ said private key and said public key according to an identification protocol.

20. (Currently Amended) A ~~system~~ The node of claim 19, wherein the identification protocol is a zero-knowledge identification protocol.

21. (Original) A system of claim 17, wherein the address is an IPv6 (IP version 6) address.

22. (Currently Amended) A system of claim 18, wherein the computing ~~means~~ is adapted for computing is further configured to compute, as the function using the public key, a hash of the public key.

23. (Currently Amended) A system of claim 18, wherein the address generating ~~means is adapted~~ unit is further configured to use the computing result as the suffix of the address generated by the node.

24. (Currently Amended) A system for proving ownership of an IP address of a node in an IP based communication system, the system comprising: wherein

~~the~~ a first node, wherein the node comprises generating means for generating unit configured to generate the IP address based on passwords used only once,

~~another~~ a second node receiving configured to receive the IP address, wherein the second node comprising verifying means for verifying unit configured to verify that the first node owns the IP address by checking the password.

25. (Currently Amended) A system of claim 24, wherein the generating ~~means~~ unit generates the IP address using an advertised network prefix and the password as the suffix.

26. (Currently Amended) A system of claim 24, wherein the generating ~~means is adapted~~ unit is further configured to include a number into the generated IP address, the number being incremented or decremented each time the IP address is transmitted to the ~~another~~

second node, the ~~another~~ second node additionally checking the number for verifying ownership of the IP address.

27. (New) A system for proving ownership of an address of a first node in a IP based communication system, wherein the first node comprises:

- providing means for providing a private key and a public key pair,
- address generating means for generating the address using the public key,
- answer generating means for proving ownership of said address by providing an address verification answer to at least one address verification request sent by a second node, the answer being generated using the private key corresponding to the public key.

28. (New) A system for proving ownership of an IP address of a node in an IP based communication system, the system comprising:

- a first node, wherein the first node comprises generating means for generating the IP address based on passwords used only once,
- a second node for receiving the IP address, wherein the second node comprising verifying means for verifying that the node owns the IP address by checking the password.